

REMARKS

The Office Action dated July 12, 2004 has been carefully considered. Claims 1, 4, 9 and 15 have been amended. Claims 3 and 18 have been cancelled. Claims 1, 2, 4-17 and 19 are in this application.

The drawings were objected to as not showing every feature of the invention specified in the claims. The Examiner indicated that "'the joint part between said support ring and the inner wall of said column' recited e.g., in claim 3; and the 'fixing part' recited e.g., in claim 4, must be shown or the feature(s) canceled from the claim(s)." Applicants submit that the joint part and fixing part are shown in Figs. 5A-5C and Fig. 6 as indicated in the attached marked-up drawings for the Examiner's reference. As shown in the Figures, the joint part is the part between the support ring and inner wall of the distillation column. The fixing part is the part between the tray and the support ring. Applicants respectfully request withdrawal of this objection.

Claims 1-19 were objected to as informal. With regard to the preamble of claims 1 and 9, Applicants have amended the preamble to recite a method for purification. With regard to claim 1, Applicants have amended the claim to recite that two different tray fixing methods can be used. Claim 18 has been cancelled for redundancy. With regard to claims 3, 4 and 15, proper antecedent basis has been provided. No new matter has been entered.

The previously presented claim 1 was rejected as anticipated by U.S. Patent No. 6,214,174 to Matsumoto et al.

Applicants submit that a 35 U.S.C. § 102(b) rejection is only proper when directed toward an invention that is identically disclosed or identically described in a printed publication in this or a foreign country or in public use or sale in this country, more than one year prior to the date of application for patent in the United States. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single reference." Verdegaal Bros v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the . . . claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ 2d 1913, 1920 (Fed. Cir. 1989).

Claim 1 has been amended to recite the limitations of original claim 3. Accordingly, Applicants submit that Matsumoto et al. do not identically disclose or describe every element of amended claim 1 and withdrawal of this rejection is respectfully requested.

The previously presented claims 1, 2, 4-8, 10-17 and 19 were rejected under 35 U.S.C. § 103 as obvious in view of U.S. Patent No. 6,214,174 to Matsumoto et al. with or without U.S. Patent No. 4,304,738 to Nutter.

Matsumoto et al. '174 disclose a method for preventing polymerization due to the stagnation of a liquid on a support ring by forming liquid passing openings on the horizontal surface of such a tray supporting member as the support ring. (Col. 4, lines 28-42). However, as described on page 9, lines 18-24 of the present specification, this method has no effect on the polymerization that occurs on the wall surface of the distillation column. Applicants note that JP-A-10-212,249 is equivalent to Matsumoto et al. '174. Applicants note that it has been found that when liquid passing openings are provided in the joint part between the support ring and inner wall of the distillation column, thereby allowing a fluid to flow down the wall surface can prevent polymerization on the inner wall of the distillation column, as described on page 8, lines 24-28 of the present specification. Moreover, there is no teaching or suggestion in Matsumoto et al. '174 of providing liquid passing openings in the joint part between the support ring and the inner wall for preventing polymerization on the inner wall of the distillation column. Further, with regard to claims 4, 15 and 19, Matsumoto et al. '174 do not teach or suggest a liquid passing opening provided in a fixing part between the tray and the support ring.

Nutter discloses a fluid contacting apparatus having a cross tray and a downcomer for introducing liquid at one end of the tray. The tray has apertures therein which enable vapor to flow upwardly through the tray into a liquid which is flowing from the downcomer. Packing material lying in the liquid on the tray comprises stacked panels of expanded metal each of which has intersecting sets of parallel metal strips. A dual flow fluid contact device stabilizes the liquid bed on each dualflow tray by partially or totally immersing a packing material in the liquid bed.

Nutter does not describe or suggest the joint part between the support ring and inner wall of the distillation column. (Col. 6, lines 27-38). In addition, Nutter does not teach or suggest providing liquid passing openings in the joint part between the support ring and the inner wall for preventing polymerization on the inner wall of the distillation column. Further, with regard to claims 4, 15 and 19, Nutter does not teach or suggest a liquid passing opening provided in a fixing part between the tray and the support ring. Accordingly, Nutter does not cure the deficiencies of Matsumoto et al. '174 described above.

Accordingly, the invention defined by the present claims is not obvious in view of Matsumoto et al. '174 in combination with Nutter and withdrawal of this rejection is respectfully requested.

Claim 9 was rejected under 35 U.S.C. § 103 as obvious in view of Matsumoto et al. '174 and U.S. Patent No. 6,641,700 to Matsumoto et al. Applicants submit that the teachings of these references do not disclose or suggest the invention defined by the present claim 9.

Matsumoto et al. '700 describe that JP-A-03-196,801 describes a method for preventing splashed droplets from being entrained by vapor in the distillation column by an operation for flash distillation which prevents polymerization by providing the distillation column at the center thereof with an umbrella baffle plate separated from the inner wall of the distillation column. (Col. 2, lines 57-61 of Matsumoto et al. '700). Matsumoto et al. '700 also describe that JP-A-51-2,675 likewise discloses a method for preventing a quenching column from clogging a nozzle led to the center of the quenching column by depriving the quenching column of a plate for collision and dispersion of gas and causing the nozzle to extend obliquely downward in the direction of the central part of the bottom liquid surface of the column and eventually join the interior of the column of thrusting through the wall of the column. (Col. 2, line 61 to col. 3, line 2 of Matsumoto et al. '700).

In contrast to the invention defined by the present claim 9, Matsumoto et al. '700 do not teach or suggest performing purification by providing a splash plate in a lower part of a distillation column. As described on page 14, lines 17-22 of the present specification, "it is possible to cut the liquid splashed from the liquid surface in the distillation column and

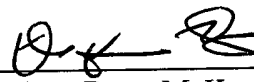
prevent the polymerization on the trays disposed above the collision plate. Rather, Matsumoto et al. '700 teach a vapor dispersing device which is different than the splash collision plate defined by the present claims.

Similarly, Matsumoto et al. '174 do not teach or suggest performing purification by providing a splash plate in a lower part of a distillation column. Accordingly, the invention defined by claim 9 is not obvious in view of Matsumoto et al. '700 alone or in combination with Matsumoto et al. '174.

In view of the foregoing, Applicants submit that all pending claims are in condition for allowance and request that all claims be allowed. The Examiner is invited to contact the undersigned should she believe that this would expedite prosecution of this application. It is believed that no fee is required. The Commissioner is authorized to charge any deficiency or credit any overpayment to Deposit Account No. 13-2165.

Respectfully submitted,

Dated: November 12, 2004



Diane Dunn McKay
Reg. No. 34,586
Attorney for Applicant

MATHEWS, COLLINS, SHEPHERD & McKAY, P.A.
100 Thanet Circle, Suite 306
Princeton, NJ 08540
Tel: 609 924 8555
Fax: 609 924 3036